



# Perrigo Community Park Master Plan Amendment Design Report for Park Addition



May 2008





# Perrigo Community Park Master Plan Amendment

## Design Report for Park Addition

### Acknowledgements

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Parks & Trails Commission  
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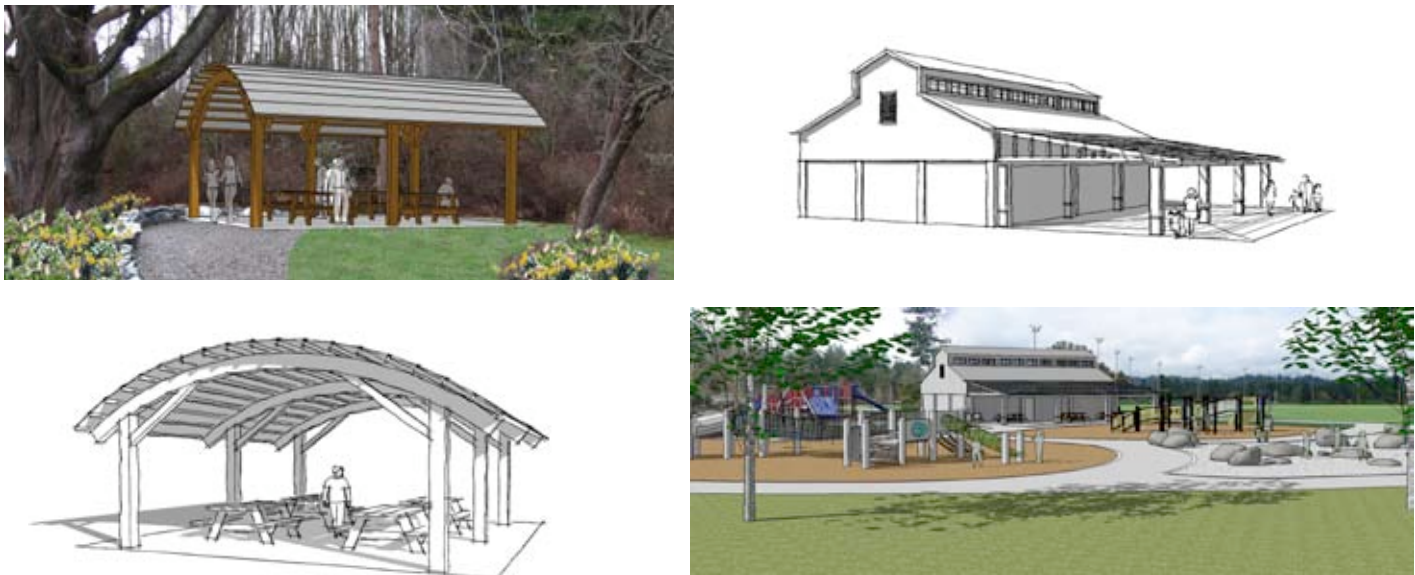


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May 2008

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Alternative concepts for Shelters



existing barn

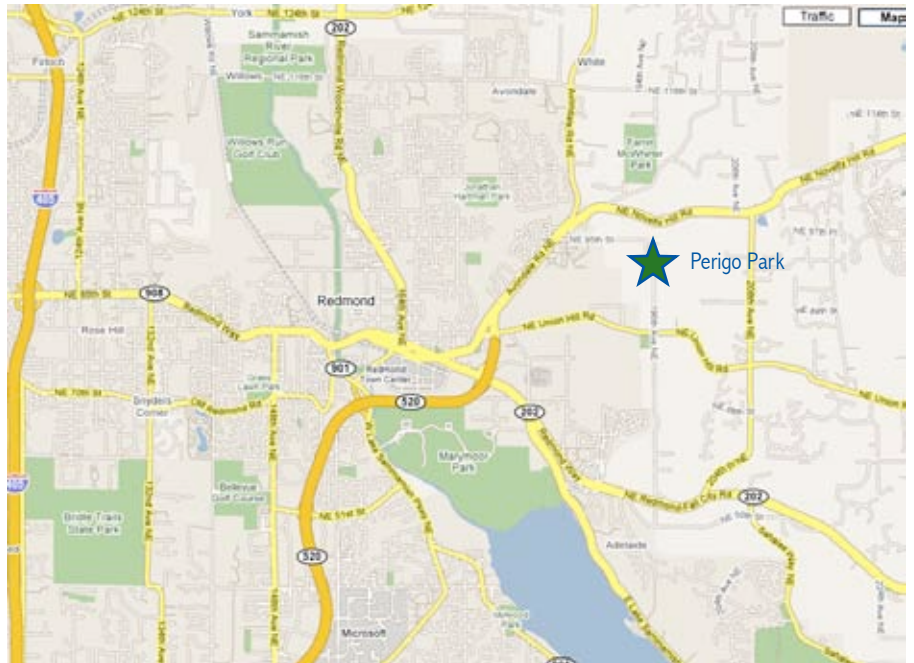
# I. Introduction

Perrigo Community Park is located in Redmond, Washington east of Bear Creek and north of Evans Creek inside the city limits. The existing 27 acre park includes two lighted sports fields, three lighted tennis courts, basketball courts, sand volleyball courts, picnic shelter, playground, trails, restrooms, parking, public art and habitat enhancement areas. It is a very active park bounded on three sides by environmentally sensitive areas.

The City purchased the subject 3.1 acres north and east of the existing Perrigo Park as an addition to the existing park to potentially add several amenities. The addition is in unincorporated King County, with frontage on 196th Avenue NE. In the fall of 2007 the Redmond Parks and Recreation Department requested that Barker Landscape Architects prepare preliminary concepts to amend the Perrigo Community Park Master Plan and to incorporate into the design an adjacent city ownership of 1 acre north of the new parcel..

Goals for the addition to the park include creating an inviting new pedestrian entrance to the park, expanding the children's play area, determining a suitable use for the old barn, providing additional parking, preserving and enhancing sensitive areas, and celebrating the farm character and natural features of the new parcel. A further goal is to envision solutions that are not dominated by pavement, that look and feel like a seamless addition to the park.

On January 3, 2008 a presentation and discussion with the Redmond Parks and Trail Commission was held to begin to introduce ideas and images about how the City's goals can be realized. In February and March, further discussions and presentations to the staff, Parks and Trails Commission and City Council helped alternative concepts evolve towards a consensus plan. On March 6, 2008, the Parks and Trails Commission adopted the Preferred Alternative Design and recommended City Council Approval of the Preferred Park Master Plan.



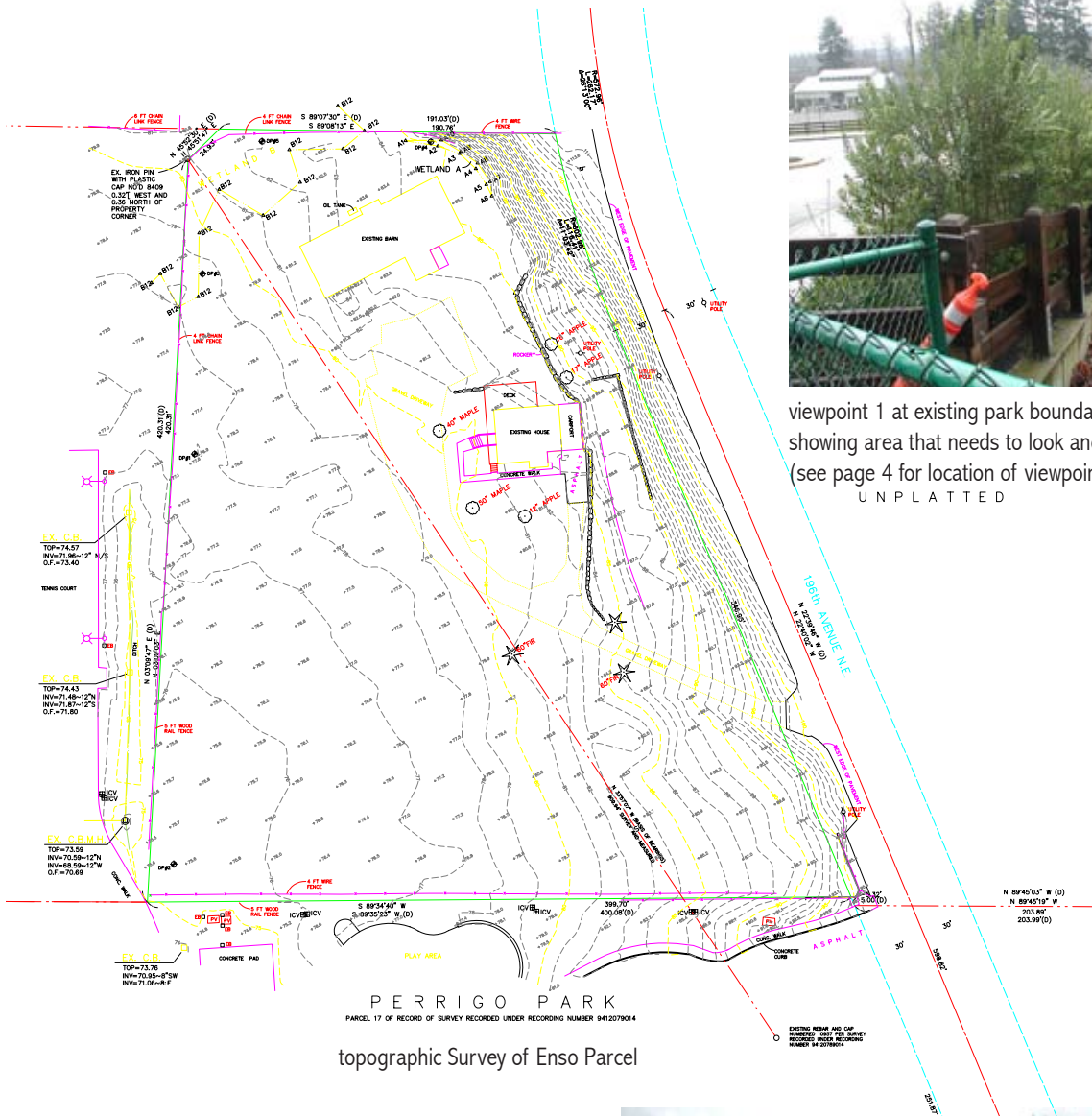
Vicinity Map

— PERRIGO PARK

■ PARK ADDITION



## II. Existing Conditions



viewpoint 1 at existing park boundary with new park addition,  
showing area that needs to look and feel seamless  
(see page 4 for location of viewpoint)

UNPLATTED



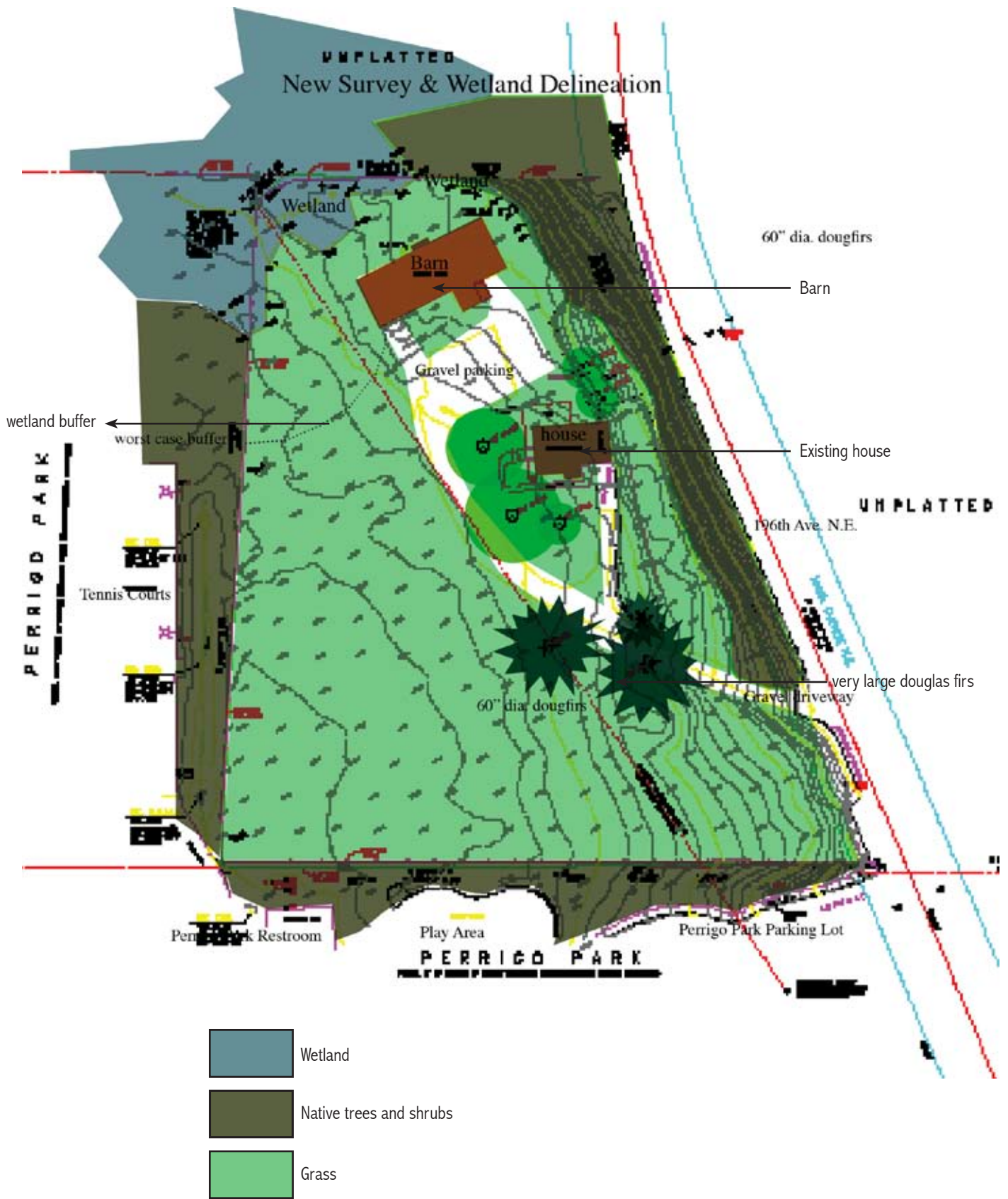
viewpoint 2 of open meadow flanked by very large Doug firs, and the existing park beyond (see page 4 for location of viewpoint)



aerial view of "Enso" barn area.



view of sand volleyball area in existing park that is commonly used by young children. adding a designated sand digging area in the new park is a potential solution



## Considerations & Constraints:

The 3 acre park expansion site contains a barn and a home, two wetlands, a gently sloping meadow, a moderately steep slope thickly wooded, several large trees and a gravel driveway. The old house has been determined to be not suitable for park use. The site is accessed from 196th Avenue NE down a moderately steep slope ending at a gravel parking lot. The 1 acre site to the north is vacant, includes wetlands, a small stream and moderately steep slopes.

### Barn Reuse:

The barn was evaluated architecturally and structurally for park use, and after determining it sound, more seriously for recreation programming or for a maintenance building. Park staff has determined the best use is for a maintenance structure.



A structural assessment was done of the existing barn to evaluate its suitability for re-use as a maintenance or storage facility. (see appendix B). In general, the building is in fair condition. There are signs of waterproofing issues, and the report states that waterproofing is the most immediate concern rather than structural issues. When the roofing and siding are repaired or replaced the underlying structure of the building can be further assessed, repaired, or upgraded as needed. Structurally, the building does not meet current code, which is not surprising given the age of the building.

Nevertheless, the report states that “despite the lack of an engineered lateral system, it is likely that the building would perform reasonably well in a large earthquake or windstorm and because of the current low level of occupancy the life-safety hazard is low. As details of the barn’s reuse are determined the structural assessment should be revisited for recommendations regarding structural suitability of the building for specific uses. For example, the upper level needs further structural analysis if it will be used for sufficient storage loads.

### Wetlands:

Two wetlands and an intermittent stream are located on the northern third of the park addition (Enso parcel and adjacent north parcel). One of the wetlands is continuous with the wetland north of the existing tennis courts. This larger wetland and the intermittent stream provide an excellent opportunity for habitat enhancement because these areas are presently dominated by non-native and invasive plant species. The other smaller wetland is at the base of the slope off from the northeast corner of the barn and was formed when the hillside was cut to create a level site for the barn. This cut intercepts the groundwater table. The wetlands and stream on the park addition are presently under King County’s jurisdiction and the area of wetland north of the tennis courts is within the city limits of Redmond.

A wetland delineation study was performed for the park addition and a copy of this report is in Appendix A. The report outlines the regulations and buffer requirements that may apply to the intermittent stream and wetlands. The small wetland northeast of the barn may qualify under King County and City of Redmond regulations as artificially created and would either not be regulated or not require a buffer. The stream and other wetland will require a buffer of 40 to 60 feet for the low to medium impact uses planned for the park. A trail within the outer half of this buffer zone will likely be allowed, but it will be subject to review and a habitat enhancement plan may be required.



# III. Public Process & Schematic Design

## SCHEMATIC DESIGN ALTERNATIVES & PROCESS

January 3, 2008 (FIRST PUBLIC MEETING) A presentation and discussion with the Redmond Parks and Trail Commission occurred to begin to introduce ideas and images about how the City's goals can be realized. Comments centered around how much parking is appropriate for this site, and additional staff review resulted in refinements shown on the next page (Concept D).

March 6, 2008 (SECOND PUBLIC MEETING) The Parks and Trails Commission was presented the preferred plan which had been reviewed by the Parks staff and design team, and the PTC adopted the Preferred Alternative Design and recommended City Council Approval of the preferred Park Master Plan.

April 16, 2008: Redmond Technical Committee Pre-Application of SEPA. City to be lead agency for SEPA determination.

May: Technical Committee SEPA determination

July: Redmond City Council ready for action

## PARK AND TRAILS COMMENTS

- Lighting concerns
- How much parking is enough?
- Natural areas — enhancements in wetland and stream buffers
- Possible off-site parking
- Interpretative signage about wetland & streams
- New sandbox area
- Adequate benches (possible seat wall)
- Incorporate the Enso property and property to the west into the formal boundary of the park.



## STAFF COMMENTS:

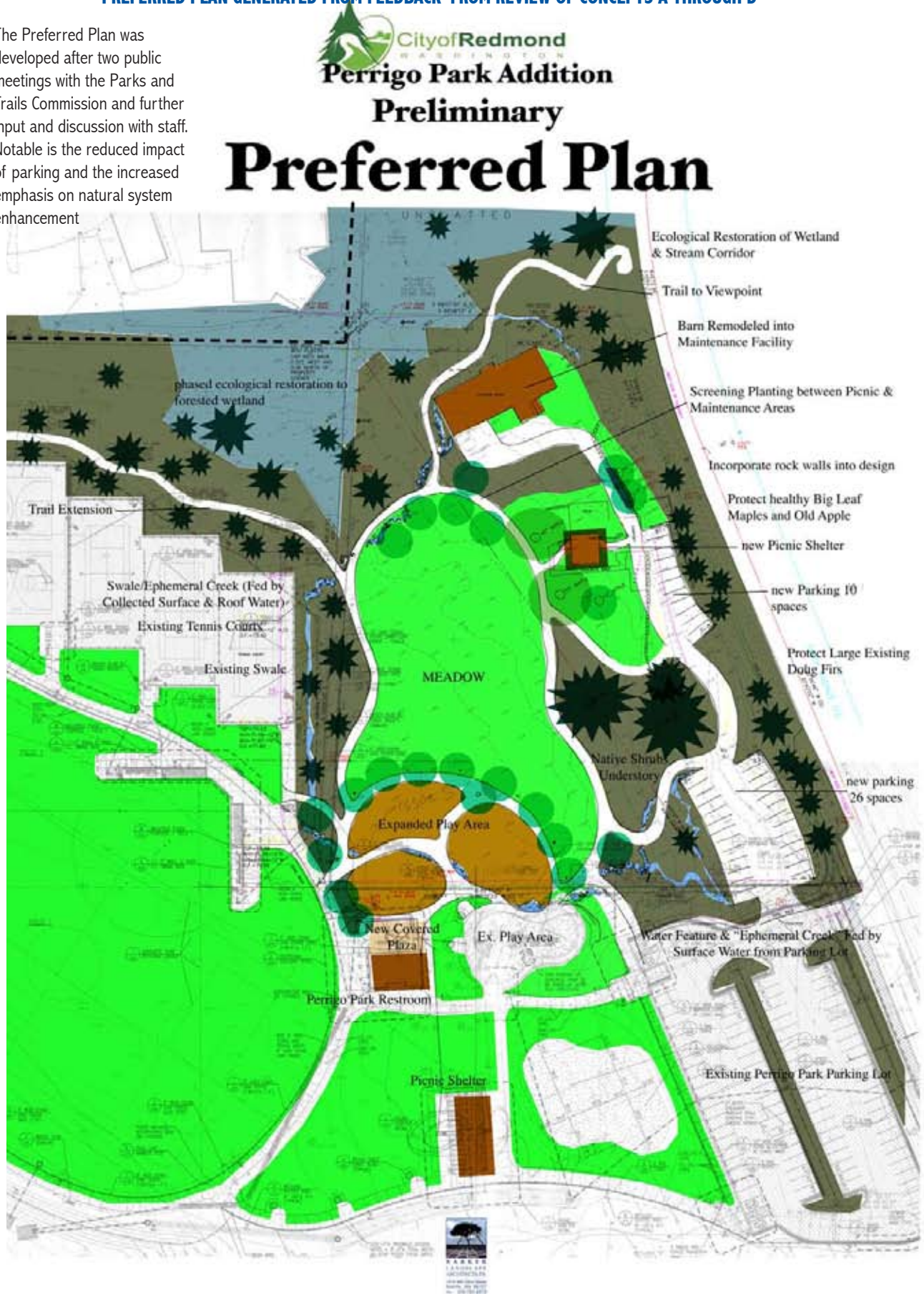
- Wider paths for service vehicles (10')
- Push driveway/parking towards road, uphill from trees
- Keep new features away from the base of existing healthy trees
- What can we do with the viewpoint? Add into concept plan
- Add property west of park to plan (0625089028)
- Down play the splash area
- Parking around 30-35 spots
- Create dry river bed down from bio-swale pool
- Non rental shelter in picnic area –small scale, 20 person capacity
- Retain farm atmosphere
- Play area for older kids
- Soft surface trail behind tennis courts (possibly from lookout)
- Make loop trails
- Can the barn be retrofitted for a maintenance facility? Maintenance-new or remodel?
- Covered plaza extending off north side of restroom with compatible architectural style.



Plan D was drawn after the January PTC meeting and in response to staff comments.

## PREFERRED PLAN GENERATED FROM FEEDBACK FROM REVIEW OF CONCEPTS A THROUGH D

The Preferred Plan was developed after two public meetings with the Parks and Trails Commission and further input and discussion with staff. Notable is the reduced impact of parking and the increased emphasis on natural system enhancement



## IV. Plan Goals & Elements

### GOALS:

- Integrate the new properties physically, functionally, and visually with the previously developed portions of Perrigo Park
- Create a less congested, less paved, less car dominated, street frontage and entrance into the park
- Expand the existing programmed play space for young and older children
- Retain the farm atmosphere of the Enso Property
- Create and enhance wildlife habitat
- Accommodate a diversity of passive and active uses
- Protect existing large and healthy trees
- Provide an on-site maintenance facility
- Covered gathering places including a covered plaza and family picnic shelter

### ELEMENTS:

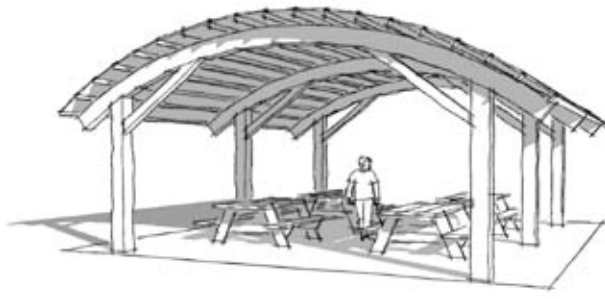
#### Formal Play Area

- Several new play spaces programmed for younger and older children's activities. Especially important are sand digging areas, older child play structures and a small spray ground.

#### Covered Plaza

- An open pavilion of approximately 1000 s.f. with a polycarbonate glazed clear roof would be created on the north side of the restrooms in the location of an existing service yard. The storage and operations in this area would move to the existing barn on the site. This will provide a sheltered place to sit for parents and others near the active play spaces, with additional space for picnics in the “heart of the park” and near the new pedestrian entrance to the park.





Potential design for new picnic shelter



### Picnic Area

- New picnic shelter with a capacity of 24 people (approximately 1000 s.f.) near the existing barn, related in design to the farm and the barn, near the site of the old house.

### Trails

- Accessible paved paths that loop through the Enso site and connect new park elements (excluding the viewpoint) with the existing park.
- Hard-packed gravel or soft-surface nature trail around the north end of the tennis courts.
- Hard-packed gravel trail to a new viewpoint above the barn.
- Benches along the trails
- Combined the new trails will loop through and around forest habitat (once the planting mature), an open meadow, and the active and intensively developed play area. They will provide views of Mount Rainier and reminders of the site's prior use as a farm.

### Maintenance Facility (barn)

- The existing barn will be remodelled to function as a maintenance facility. Further discussions and design will be necessary to determine more about these improvements.
- The access driveway between the northern extent of the public parking area and the barn could be a "country lane" with only the driving tracks paved. This would create a look in keeping with the farm atmosphere of the site and has the benefit of reducing the amount of impervious surfaces.



### Parking

- The project would create 36 new parking spaces. Several low retaining walls are likely required along portions of the east edges of the parking lots. All or a portion of the parking could be permeable paving.

### Viewpoint

- The viewpoint to the north of the barn would be developed to offer a path climbing above the park to a view of the city, the Bear Creek Valley and Mt. Rainier on a clear day. Access from the street above can offer ADA access to the viewpoint, but the path would be too steep to connect to the lower park elevations. The route will be inside the wetland buffer and would cross the created wetland behind the barn with a boardwalk or bridge.

### Restoration

- Ecological restoration of the intermittent stream on the north property and the wetlands and wetland buffers on the Enso site, north property, and area north of the tennis courts. This restoration would include removal of invasive plant species and planting native tree and shrub species

## ENLARGEMENT OF PREFERRED PLAN & PARK ELEMENTS



### EXISTING CONDITIONS:

Field in middle ground is a wetland. Wetland and intermittent stream covered with brambles

### Stormwater and Wetlands

- The project would create a system of bioswales, raingardens, and dry creeks that handle site water in an ecological, visible, and aesthetically pleasing way, cleanse stormwater, and weave the presences of water into the experience of the site.



- This project may also include interpretive signage with information natural elements and on the history of the Enso property. In addition, the rock walls and other remnants of the farm landscape will be incorporated into the visitor's experience where possible.



# V. Cost Estimate

## Perrigo Community Park Master Plan Amendment

4/29/08

Preliminary Estimated Costs for Additional 3.1 acre development per RCO format

prepared by Barker Landscape Architects

RCO category	unit	qty	est cost per unit	est cost subtotal	description
<b>Building &amp; Structures</b>					
maintenance building	ls	1	\$240,000.00		adapt remodeled barn into park maint. facility 3200 sf structure x \$70
<b>Fencing/Gates</b>					
fencing - wood	lf	300	\$15.00	\$4,500	wetland/buffer protective fencing
gates	ea.	2	\$600.00	\$1,200	outdoor storage
bollards	ea	15	\$400.00	\$6,000	wood at entrance to control cars
<b>In-Stream Habitat</b>					
bank stabilization	lf	150	\$4.00	\$600	
<b>landscaping</b>					
boulders	ls	30	\$175.00	\$5,250	
grass - seed	acres	1.5	\$10,000.00	\$15,000	drought tolerant seed meadow mix
ground cover	sf	2	\$175.00	\$350	xeric grasses/perenns
habitat enhancement	ls	1	\$17,500.00	\$17,500	wetland plantings and habitat structures
Drainage system	ls	1	\$5,000.00	\$5,000	swales and raingardens
irrigation - auto for shrubs	sf	10000	\$1.00	\$10,000	
irrigation - auto for turf	acres	1	\$43,560.00	\$43,560	
soil amendments	ls	1	\$10,000.00	\$10,000	compost and arborist's chips
top soil/mulch	yds	30	\$150.00	\$4,500	
trees/shrubs	ls	1	\$40,000.00	\$40,000	68 new trees, 2500 new shrubs
<b>Lighting</b>					
Pathway	ls	1	\$10,000.00	\$10,000	plaza, bandshell/restroom area
Parking and roads	ls	1	\$20,000.00	\$20,000	Redmond standard
<b>Park Amenities</b>					
park amenities - other	ls	1	\$5,000.00	\$5,000	viewpoint, with bench, interp. Sign, fencing
<b>Park furniture</b>					
benches	ea	10	\$1,500.00	\$15,000	wood
drinking fountain	ea	1	\$2,500.00	\$2,500	near new picnic shelter
picnic pads - concrete	ea	3	\$750.00	\$2,250	near play area
tables	ea	12	\$1,500.00	\$18,000	near play area
trash receptacles	ea	5	\$1,000.00	\$5,000	near play and picnic areas
<b>Parking</b>					
Curbs	lf	350	\$15.00	\$5,250	
Oil/water separator	ea	1	\$5,000.00	\$5,000	
parking - asphaltic concrete	spaces	26	\$810.00	\$21,060	8.5'x18.5' permeable pavement
parking-other	ls	10	\$1,000.00	\$10,000	8.5'x18.5'green permeable paving
striping	ls	1	\$1,500.00	\$1,500	
wheel stops	ea	34	\$120.00	\$4,080	
<b>Permits</b>					
permits	ls	1	\$12,000.00	\$12,000	building, clear & grading, SEPA, shoreline
<b>Playgrounds</b>					
Climbing wall	ls	1	\$15,000.00	\$15,000	1092 sf
Interactive water feature	ea	1	\$30,000.00	\$30,000	small sprayground
Play equipment	ls	1	\$50,000.00	\$50,000	
Playground surfacing	sf	10560	\$7.90	\$83,424	includes curbing, ramps, drainage
<b>Roads</b>					
Curbs	lf	200	\$15.00	\$3,000	
roads - asphaltic concrete	lf	200	\$5.00	\$1,000	24' wide permeable pavement
striping	ls	1	\$750.00	\$750	

### Signage

interpretive signs	ea	5	\$1,250.00	\$6,250	history, ecology, culture
traffic/directional signs	ls	1	\$1,000.00	\$1,000	
misc. signs	ls	1	\$300.00	\$300	
trail signs	ea	4	\$750.00	\$3,000	

### Shelters

picnic shelter freestanding	ea	1	\$100,000.00	\$100,000	970 SF freestanding shelter
picnic shelter attached	ea	1	\$50,000.00	\$50,000	940 SF attached to existing restroom/storage

### Site Preparation

clearing	acres	1.5	\$20,000.00	\$30,000	
demolition	ls	1	\$20,000.00	\$20,000	
grubbing	acres	2	\$5,000.00	\$10,000	removal of non natives
erosion control	ls	1	\$15,000.00	\$15,000	bmpps per DOE manual
grading	acres	1.4	\$10,000.00	\$14,000	
fill	cy	500	\$30.00	\$15,000	prelim guestimate
cut	cy	500	\$15.00	\$7,500	prelim guestimate
mobilization	ls	1	\$25,000.00	\$25,000	
site preparation - other	ls	1	\$10,000.00	\$10,000	fine grading for lawns and native shrubs
surveying	ls	1	\$3,000.00	\$3,000	
temporary fencing	ls	1	\$5,000.00	\$5,000	
top soil	cy	150	\$30.00	\$4,500	imported soil/

### Trails

boardwalk - recycled plastic lumber	lf	100	\$400.00	\$40,000	6 ft. wide
sidewalks	lf	100	\$42.00	\$4,200	6 ft. wide
stairs	ls	2	\$3,500.00	\$7,000	steep segments of trail and connecting to roa
trail - asphaltic concrete	lf	2500	\$10.00	\$25,000	5' width, 2" depth over crushed rock base

### Utilities

biofiltration - drainage swale	ls	1	\$5,000.00	\$5,000	bioinfiltration and raingardens
catch basins	ea	5	\$1,000.00	\$5,000	
power	lf	200	\$18.00	\$3,600	
sanitary sewer	lf	400	\$30.00	\$12,000	
storm sewer	lf	200	\$22.00	\$4,400	
stormwater retention	ls	1	\$5,000.00	\$5,000	pond
surface drainage	ls	1	\$5,000.00	\$5,000	swales, raingardens
water backflow device	ea	1	\$1,000.00	\$1,000	
water meter	ls	1	\$4,000.00	\$4,000	new meter

RCO category	unit	qty	est cost per unit	est cost subtotal	description
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### subtotal

**\$924,024**

sales tax

\$83,162

subtotal

\$1,007,186

17% architectural/engineering/permitting/proj mgmt fees

\$157,084

**TOTAL ESTIMATED PROJECT COST W/O CONTINGENCIES**

**\$1,164,270**

# Appendix A

## WETLAND DELINEATION STUDY:

December 10, 2007

John Barker  
Barker Landscape Architects  
20929 NE 50th Street  
Redmond, WA 98053

Re: Wetland Delineation Study, TWC Ref# 071126

Dear Mr. Barker:

On November 29, 2007, Ecologists Mike Foster and Meagan McManus conducted a wetland delineation study on the City of Redmond Parks property located at 9215-195th Avenue NE in unincorporated King County (parcel number 0625069100).

This letter summarizes the findings of this study and details applicable federal, state, and local wetland regulations. The following attachments are included:

- Wetland Delineation Sketch
- Wetland Determination Data Forms
- Wetland Rating Forms

### Methods:

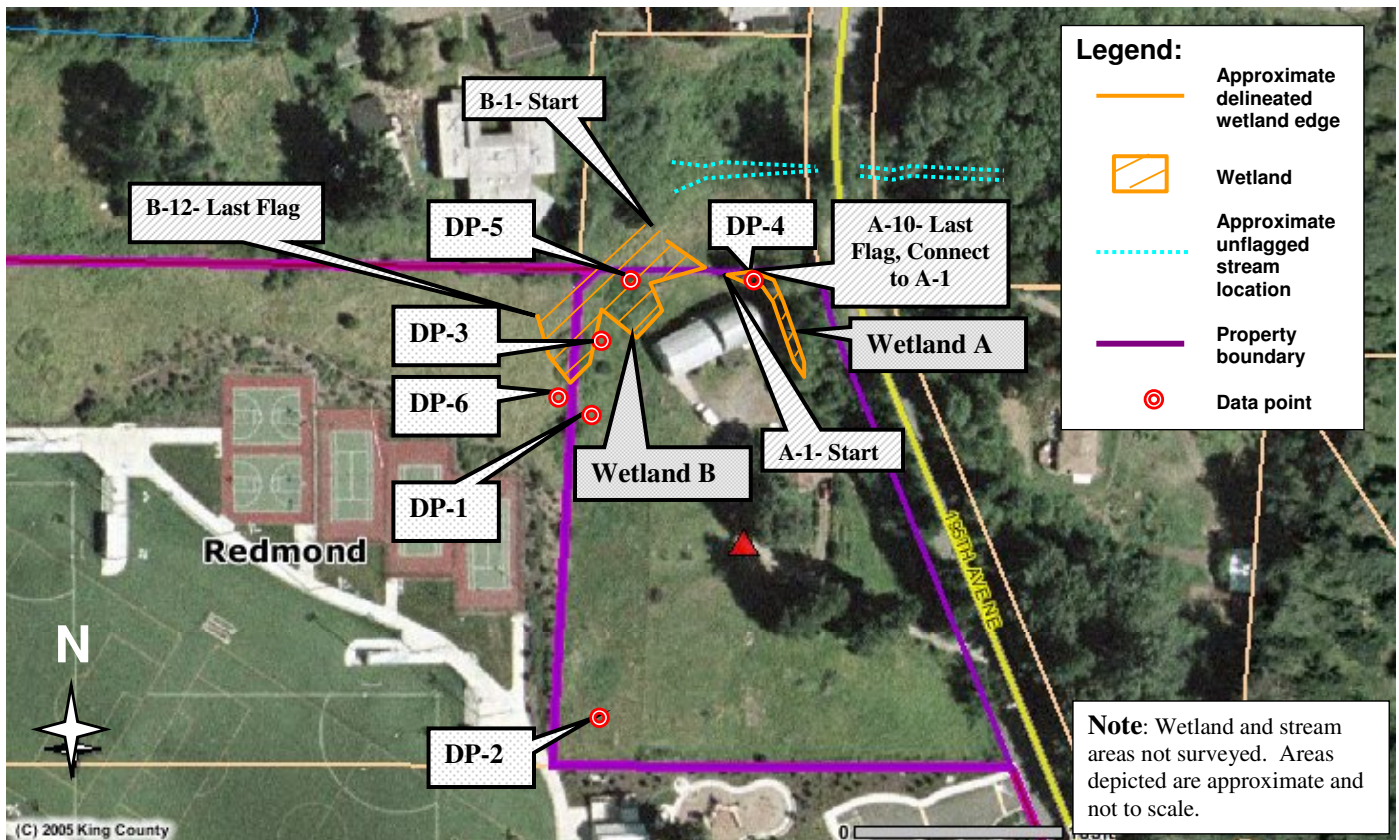
The subject property was evaluated for wetlands using methodology from the Washington State Wetlands Identification and Delineation Manual (Manual) (Washington Department of Ecology [Ecology] 1997). Wetland boundaries were determined on the basis of an examination of vegetation, soils, and hydrology. Areas meeting the criteria set forth in the Manual were determined to be wetland. Soil, vegetation, and hydrologic data were sampled at several locations on the property to make the determination. We recorded data at six of these locations. The delineated wetland boundaries were marked with pink- and black-striped flags. The boundary of Wetland A is marked with 10 flags. The boundary of Wetland B is marked with 12 flags. Data points are marked with yellow- and black-striped flags. The wetlands were classified using Western Washington Wetland Rating System (Ecology, Aug 2004, version 2). Field observations and aerial photos from King County's GIS mapping website (iMap) were used to rate wetlands found on the subject site.

### Findings:

The subject property is located east of Bear Creek and north of Evans Creek in unincorporated King County in the Cedar-Sammish Watershed (WRIA 8). It is located outside of the UGB and it is zoned RA-5. The 3.04-acre site slopes gently to the west and directly abuts Redmond city limits on its western border. It also abuts a Redmond park that is developed with tennis courts, parking and other amenities.

The property is currently zoned for one residence per five acres and contains one residence and one commercial building. Large, open grassy areas are located north and west of the buildings. According to the Natural Resource Conservation Association soil survey, the site contains Everett gravelly sandy loam. Two wetlands, Wetland A and Wetland B, were located on the property. Wetland A is a depressional wetland that contains a palustrine emergent vegetation class. The primary source of hydrology is groundwater from slopes located north and east of the wetland. Wetland B is a slope wetland located in the north west corner of the subject property, and extends off-site to the north and west. An intermittently flowing stream flows east-west and is located on the northerly adjoining property. This stream was assessed for habitat value and grade, but was not included in the scope of work for this project and subsequently was not flagged.

Wetland A appears to have been created when the hillside to its east was excavated in order to situate the current on-site barn structure. This excavation now intercepts the groundwater table that also supports the larger wetland system found to the north and west. Dominant vegetation in this wetland consists of soft rush (*Juncus effusus*), orchard grass (*Dactylis glomerata*) and bluegrass species (*Poa* sp.) with cottonwood (*Populus balsamifera*), creeping buttercup (*Ranunculus repens*) and geranium (*Geranium* sp.) also present. Soils are dominated by gleyed greenish gray (Gley 1 5GY5/1) sandy clay loam with dark yellowish brown (10YR4/6) redoximorphic features (RMFs). Free water was observed at the surface at the time of our visit, and approximately 1/4 inches of sheet flow was present in surface depressions nearby.



#### Wetland Delineation Sketch

(parcel number 0625069100)

Unincorporated King County, near Redmond, Washington

Prepared for John Barker

November 30, 2007



750 Sixth Street South | Kirkland | WA 98033  
p 425.822.5242 / 425.827.8136

Wetland B is a slope palustrine emergent and scrub-shrub wetland, and is dominated by reed canary grass (*Phalaris arundinacea*) with black hawthorn (*Crataegus douglasii*) present. Soil consists of dark grayish brown (2.5Y4/2) gravelly sandy clay loam, and was saturated to the surface at the time of the site visit. The depth to free water was typically 2 inches in sampled areas. The area between Wetland A and Wetland B exhibits vegetation, soils and hydrology that are not indicative of wetland, and therefore are not connected units.

Non-wetland areas at the site are dominated by Himalayan blackberry (*Rubus armeniacus*), orchard grass, tall fescue (*Festuca arundinacea*), reed canary grass, stinging nettle (*Urtica dioica*), bluegrass species and dandelion (*Taraxacum officinale*). Soils consist of very dark grayish brown (10YR3/2) sandy loam, dark brown, (10YR3/3) loamy sand and brown (10YR4/3) gravelly sandy loam with no RMFs. Some soils near the south end of Wetland B were saturated, likely due to relatively high recent rainfall. No other saturated soils were observed in non-wetland areas.

#### Local Regulations

The subject property is presently within King County jurisdiction. However, the City of Redmond may be annexing this area, therefore, both King County and Redmond regulations are included in this report.

#### King County Regulations

King County regulates wetlands and aquatic areas through the King County Critical Areas Ordinance (KCCAO). Wetland buffers are determined based on the wetland category associated with the wetland. Buffer widths also vary depending on the intensity of planned land use, whether the subject property is within or outside the Urban Growth Boundary (UGB), and on the wetland habitat score. Wetland A is a Category IV wetland with a habitat score of 12 points and a total score of 26 points. Wetland B is a Category III wetland with a habitat score of 16 and a total score of 46 points. Standard buffer widths are shown in the table below. Examples of high intensity land use are active recreational use on a site regardless of zoning. Residential use is deemed moderate intensity. Examples of low intensity use are passive recreation such as trails, nature viewing, fishing or camping in areas that do not require permanent structures (KCC 21A.24.325.2).

\*Buffers may be increased adjacent to steep slopes. See below.

Wetland	Category	Habitat Score	Required Buffer Widths (ft)*		
			Low impact	Medium impact	High impact
A	IV	12	25	40	50
B	III	16	40	60	80

King County requires a 15-foot building setback from the edges of all critical area buffers. Building setbacks may contain landscaping, uncovered decks, building overhangs (if no more than 18 inches into the setback area), impervious ground surfaces such as driveways with specified drainage provisions, and utility service connections (KCCA 21A.24.200).

Standard wetland buffers may be modified under options detailed in KCCA 21A.24.325.C. First, an applicant may be allowed to modify the buffer using a buffer averaging plan. Buffer averaging may be approved if the applicant demonstrates that the ecological structure, function and total area of the buffer is equivalent or greater than the structure, function and area before averaging and that the buffer is contiguous. Second, the county may allow a buffer reduction with an enhancement plan (KCCA 21A.24.045.D49). Enhancement may involve removing invasive plant species and planting native vegetation. Also, if the wetland is part of a larger wetland complex, the averaging must include the corridors of the wetland complex. Any plan drafted to reduce buffer widths must be approved by King County through a review process.

The stream to the north is also located in unincorporated King County. The streams buffers may encumber some of the subject parcel property. Stream buffer widths in King County are determined based on location (inside or outside the UGB), proximity to other aquatic areas and functional habitat values. Stream types are determined using KCC 21A.24.355. The stream located is likely a Type N water due to its above-ground channel system, stream or wetland connection to a Type S or F watercourse. The standard buffer width for a Type N watercourse inside or outside the UGB is 65-feet. Buffers may be modified (reduced) under section KCC 21A.24.

Steep slopes, slopes of 40 percent or greater, are also regulated under the KCCA. A potential steep slope was observed in the northeast property corner. Buffer widths for steep slopes are determined based on a critical area report prepared by a geotechnical engineer or geologist. The buffer, which "is required from all edges of the steep slope hazard area," would be a minimum of 50 feet (KCC 21A.24.310). The eastern boundary of Wetland A is at the base of this steep slope. When a wetland buffer contains a steep slope the buffer width is either 25 feet beyond the top of the slope or the standard wetland buffer width, whichever is greater.

Artificially created wetlands are not regulated under KCCA 21A.06.1391. This includes artificial features made from non-wetland areas such as a surface water conveyance for drainage or irrigation. Wetland A is likely not regulated by King County. However, this is subject to verification by King County.

#### City of Redmond Regulations

Redmond regulates wetlands under Section 20D.140.10 (Critical Areas) of the Redmond Critical Areas Ordinance (RCOA). Wetland buffer widths are determined based on wetland category, proposed intensity of land use, and Habitat Functions score on the rating form.

Wetland A is a Category IV wetland, with a Habitat Functions score of 12 points. Wetland B is a Category III wetland with a Habitat Functions score of 16 points. The table above shows the required buffer widths for Wetlands A and B in the City of Redmond. High impact land use includes commercial, industrial and high-intensity recreation (golf courses and ball fields). Medium impact land uses include "moderate intensity open-space (parks), and paved trails." Examples of low intensity land use include low-intensity open space such as passive recreation and natural resource preservation and unpaved trails (RCOA 20D.140.30-020.2). Presumably, unless ball fields are proposed, it appears that potential park amenities may classify as moderate impact land use.

Standard wetland buffers may be modified under section 20D.140.30-020(6) of the Redmond CAO by using a buffer averaging plan. Buffer averaging may be approved if the applicant demonstrates that buffer functions will be maintained; the buffer is contiguous and the total buffer area is not reduced; and that at no point would the modified buffer be reduced by more than 25 percent of the standard width, or to less than 50 feet. Any plan drafted to reduce buffer widths must be approved by the City of Redmond through a review process. No building setbacks from wetland buffers are required in the City of Redmond.

According to Redmond Municipal Code 20D.110, the Perrigo Park area classifies as recreation open space according to its status as a park which includes parks walkways, bikeways, trails, sitting areas, paracourses, golf courses, recreation buildings and outdoor activity areas such as tennis, basketball and sport courts and swimming pools. Such areas are subject to design standards set forth in the above mentioned code, which may include use of natural or rustic building materials, colors and design that harmonize with the surrounding environment, the use of the existing buffer to provide a buffer to avoid visual or other impacts, and sensitive site design to minimize short- and long- term manmade disturbance to the site.

According to Redmond Code, artificial wetlands are those areas which were intentionally created from non-wetland sites including drainage ditches (RCAO 20A.20.230). Wetland A would likely not be subject to standard buffers stated above. However, this is subject to verification by the City of Redmond.

#### State and Federal Regulations

Wetlands and streams are also regulated by the U.S. Army Corps of Engineers (Corps) under section 404 of the Clean Water Act. Any filling of Waters of the State, including wetlands (except isolated wetlands), would likely require notification and permits from the Corps. The Corps would not consider these wetlands isolated. Federally permitted actions that could affect endangered species (i.e. salmon or bull trout) may also require a biological assessment study and consultation with the Fish and Wildlife Service and/or the National Marine Fisheries Service. Application for Corps permits may also require an individual 401 Water Quality Certification and Coastal Zone Management Consistency determination from Ecology.

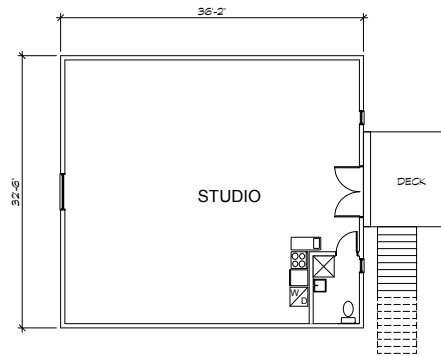
In general, neither the Corps nor Ecology regulates wetland buffers.

Please note that the findings of this letter, including wetland classification and resulting buffer width predictions, are subject to the verification and agreement of local, state and/or federal regulatory authorities. Please call if you have any questions or if we can provide you with any additional information.

Sincerely,  
Meagan McManus

Ecologist  
Enclosures

# Appendix B: Barn Assessment



2 Upper Floor Plan  
A2.1 Scale: 1/8" = 1'-0"



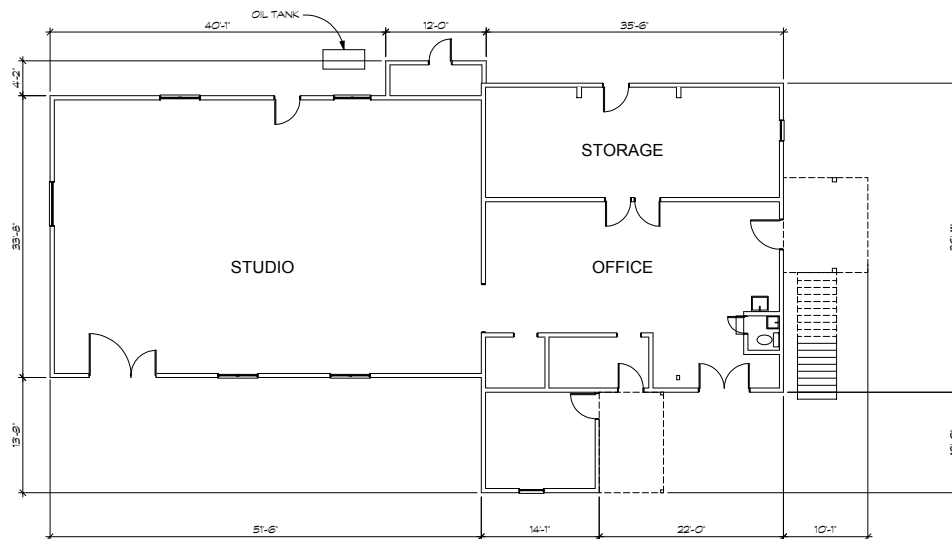
Community Design Works Inc.

402 15th Avenue East  
Seattle, Washington 98112  
206.328.7664  
206.329.5494 fax

## Perrigo Park

Barn Building Reuse  
Feasibility

9215 195th Ave NE  
Redmond, WA 98053



1 First Floor Plan  
A2.1 Scale: 1/8" = 1'-0"

## Floor Plans

2 January 2008

Revisions

Drawn by:

JB

Checked by (P.M.):

DB

Checked by (O.C.):

07-051W

A2.1 ■



## LETTER OF INSPECTION

Community Design Works

DATE: February 7, 2008

TO: *Barker Landscape Architects*  
*1514 NW 52<sup>nd</sup> Street*  
*Seattle, WA 98107*

402 15th Avenue East  
Seattle WA 98112-4599  
206 329 8300  
206 329 5494 fax  
dbaldner@eworks.org

PROJECT: *Perrigo Park Barn Assessment*  
*9215 195<sup>th</sup> Ave. NE*  
*Redmond, WA*

We have visited the site on two occasions, December 21, 2007 and February 1, 2008. The observations below are based on observation of visible conditions only. No destructive investigations were performed.

### Configuration

The original barn is roughly 37' by 36' with a second floor accessed by an exterior wood stairway and deck on the east side of the building. The ground floor contains an office, storage, dressing rooms and a small toilet room. A small 12' by 14' addition on the south functions as storage and workroom. A newer one story portion roughly 51'6" by 34' on the west side of the original structure is currently used as studio space.

The original barn roof is an arch top gambrel form, probably made of laminated members. The structure is covered inside and out, and free spans approximately 32'6". The roof of the one story addition is also an arch top gambrel constructed of pre-manufactured wood trusses. The one storey workroom has a low slope gable that extends over a small outside slab on grade.

### Foundation

The foundation of each portion of the building is poured in place concrete. There are a few cracks in the older portion of the concrete foundation that do not appear to be expanding. This portion also has some visible honeycomb but no indication of spalling. The top of the foundation, except at the lean-to housing the boiler, is well above grade on all sides. Grade generally slopes away from the foundation, directing water away from the building.

### Exterior Walls

Siding of the older portion is painted horizontal wood lap siding, mostly in relatively good condition though some reattachment and/or replacement may be necessary. The newer portion is painted plywood siding. There are several areas showing signs of delamination and will need to be replaced. There is one section that is painted building paper without any wood siding. This area needs repair.

The windows are single glazed wood sash in wood frames. The installation of the windows has not been completed and many are without trim and flashing. There is evidence of water penetration at some of the untrimmed openings. The wood entry doors are in fair condition and most are well protected with building overhangs. The second floor double wood door is exposed to the weather and shows signs of deterioration. There is an aluminum framed oversized double door with insulated glazing at the top of a short ramp on the south side of the studio. It is in good condition but is untrimmed on the interior.

## structural memorandum #1

**project:** perrigo park barn  
redmond wa

**date:** 4 february 2008

**to:** environmental works  
402 15<sup>th</sup> avenue east  
seattle wa 98112

**attn:** dan baldner

**from:** nic rossouw

**re:** building assessment

---

### overview:

i visited the property to the northeast of perrigo park on 1 February 2008. i understand that the property and buildings have been purchased by the city of Redmond and will be incorporated into the park. apparently the house will be demolished, but the city is considering saving the "barn" building and using it as a maintenance and storage shed. the purpose of this report is to assess the structural condition of the barn structure in light of its proposed re-use.

### observations:

the barn building is currently being used as a martial arts center. it appears that the original barn structure on the east end probably dates from the 1950s or earlier. the west end of the building as a one story structure of about 34ft x 52ft that appears to have been constructed in the past 15 years. both portions have metal roofing. the old portion of the building has a horizontal lapped wood siding and the addition has a t1-11 plywood siding.

the original roof is arched with the ridge running approximately east-west. the roof structure is entirely enclosed so it is not possible to analyze the framing. the upper floor appears to have been reframed when the west wing was added. the floor structure is 14" plywood-web joists @ 16"o.c spanning north south, supported on the exterior walls and an interior load bearing wall. the roof of the west wing is framed with prefabricated connector plate wood trusses spanning north-south. the main floor is a concrete slab on grade and all the foundations appear to be continuous concrete footings with concrete stem walls.

it appears that the structure is in fair condition. it appears that the roof is quite corroded in some areas, particularly near the flue from the boiler on the north side of

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the building. i noticed water staining of the ceiling above the upper floor and around some windows so it is apparent that there are some ongoing waterproofing issues. there are several places that the original lapped siding appears deteriorated or is missing. the southwest corner of the original building appears to be sided with painted tar-paper, which may not meet current standards for construction. the t1-11 siding on the west wing is has buckled and pulled away from the building in places.

overall it appears that the vertical (gravity) framing systems are quite adequate and even if they do not meet current code requirements, none pose a life-safety hazard to the occupants. while it is not possible to see the original roof structure it is apparent that it has performed quite well over an extended period of time. there is only a slight bow to the roof ridge, but nothing that suggests structural deficiencies. this type of load testing is as good or better than any analytical methodology. the prefabricated roof trusses over the west wing appear to be in good condition and given their age were likely designed to standards that are close to current code requirements.

in general the foundations appear to be in good condition. i noticed a few cracks in the concrete stem walls along the north side of the original building, but did not see any in the newer concrete. it is quite likely that the original foundation was not reinforced. the cracks that are visible appear to be shrinkage cracks that result from the curing of the concrete and seasonal temperature changes. it does not appear that there has been any significant differential foundation settlement. the concrete slabs on grade appear to be in good condition. however the slab in the west wing is almost entirely covered with mats so it is possible that there are cracks that are not currently apparent.

the lateral (wind and earthquake) load resisting system for the building is probably quite undersized by current code standards. the original building was constructed in an era when buildings of this type were not engineered, so it does not have a formal lateral load resisting system. the addition, might have been engineered, but without construction or permit documents there is no way to know for sure. the roof and the exterior walls of the building resist racking. the shear strength in the roof comes from the roof sheathing and the shear strength in the walls comes from the siding and the interior finishes (mostly gypsum wallboard at this point). none of the materials in the old portion of the building have significant shear strength. the t1-11 plywood siding on the west wing can be a good shear resisting material and in this case it appears to be well nailed and the horizontal joints are blocked and nailed, which significantly improves shear performance. the buckling of portions of the t1-11 suggests that the shear strength may be compromised and of even more concern there may be rot in the siding or framing.

despite the apparent lack of an engineered lateral load resisting system, it appears that the building is quite stable and there is no evidence of past damage from earthquakes and windstorms.

#### **recommendations:**

the immediate concern is not really structural but rather waterproofing. i think that the building envelope (roof and walls) needs to be fully assessed. when the roof and siding are repaired or replaced it will reveal the underlying roof and wall structure and the structure can be repaired or upgraded as needed.

given the proposed use of the building as a maintenance and storage shed i do not see any need to further investigate, analyze or upgrade the structural systems in the building. the slab on grade will have plenty of capacity to support typical materials and equipment. unless the mats are hiding serious slab cracks or if the parks department has a very large piece of equipment that they want to store in the building there is no need to investigate or analyze it further. if the parks department plans to use the upper floor for significant storage loads it would be advisable to analyzing the floor for the specific loading. given that access is limited to an exterior stair, it seems unlikely that they will store large item there. however there is a high ceiling so it is physically possible to store heavy loads so i think it would be advisable to at least post load limits in the space so that there is not an inadvertent overloading of the floor over time.

despite the lack of an engineered lateral system, it is likely that the building would perform reasonably well in a large earthquake or windstorm and because of the low occupancy the life-safety hazard is extremely low. however upgrading the lateral system would extend the useful life of the building and reduce building damage in the event of a large wind or seismic event. an analysis would determine the code required wind and seismic loads and then the up[grade could be designed. work would consist of adding plywood to either the inside or outside face of selected walls, adding connections between the framing and the walls in question and attaching the bottom plate of the wall to the foundation below. these connections would be expansion bolts and washers at the bottom plates and hold-down devices with epoxy grouted threaded rods into the foundation at each end of each upgraded wall. if the envelope investigation leads to a re-siding of portions or all of the building the seismic upgrades can be incorporated into that work.

please call if you have any questions about this report.